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Author(s): Maria do Carmo E. Amaral
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Inclusion of *Sinia* in *Sauvagesia* (Ochnaceae)

Maria do Carmo E. Amaral
Botany Department, Biology Institute, P.O. Box 6109, 13083-970, UNICAMP, Campinas, São Paulo, Brazil. volker@unicamp.br

Abstract. Based on flower and seed morphology, it is proposed to include the genus *Sinia* in *Sauvagesia* s.l. As a result, the new combination *Sauvagesia rhodoleuca* (Diels) M. C. E. Amaral becomes necessary.

Resumo. Com base na morfologia de flores e sementes, propõe-se incluir o gênero *Sinia* em *Sauvagesia* s.l. Em conseqüência, a nova combinação *Sauvagesia rhodoleuca* (Diels) M. C. E. Amaral torna-se necessária.

Key words: Flora of China, Ochnaceae, *Sauvagesia*, *Sinia*.

Diels (1930) described *Sinia* as a new genus of Ochnaceae in his *Miscelania sinensia*. The flowers of this genus were characterized by the presence of an outer whorl of numerous, smaller subpetaloid staminodes, to only 1 mm, and an inner whorl of 10 petaloid staminodes, to 4–5 mm, around the stamens and ovary. Diels mentioned the similarities in the habit of *Sinia* with *Indovethia* Boerlage, a genus of Ochnaceae from Sumatra and Borneo. Both are erect, glabrous subshrubs with alternate leaves with glandulous-serrulate margins. He also described the differences in flower and inflorescence morphology between his new genus, *Indovethia*, and *Neckia* Korthals, the latter also from the Indo-Pacific region. In *Indovethia*, there are only 10 petaloid staminodes in two alternate whorls, whereas the flowers of *Neckia* have a whorl of numerous subpetaloid staminodes and 15 to 25 inner petaloid staminodes around the stamens and ovary. Diels did not compare *Sinia* with the genus *Sauvagesia* L., which at that time included only Neotropical species. Until recently, no good material of *S. rhodoleuca* had been collected. The original type material of *Sinia rhodoleuca* Diels in Berlin (holotype and paratype) was destroyed during World War II, and other herbaria (A, K) only have fragments of isotypes and isoparatypes; thus, the knowledge of the genus and its only species was primarily based on Diels's description (e.g., Kanis, 1968).

A phenetic analysis of *Sauvagesia* L. and related taxa by Sastre (1971) included the genus *Neckia* (together with *Lavradia* Vellozo ex Vandelli, *Leitgebia* Eichler, *Pentaspatella* Gleason, *Roraimanthus* Gleason, and *Vausagesia* Baillon) in *Sauvagesia* s.l. The characters of the staminodes in this broadly defined concept of the genus *Sauvagesia* vary from just five spathulate and small staminodia between the stamens (former genus *Leitgebia*) to numerous petaloid staminodes (former genus *Neckia*). Sastre (1971) did not include the genera *Indovethia* and *Sinia* in his analysis.

Based on a cladistic analysis of the Ochnaceae using morphological and anatomical characters (Amaral, 1991), the genus *Indovethia* was included in *Sauvagesia* s.l. This cladistic analysis did not include *Sinia* because no good material was then available for scoring most of the characters. However, Amaral (1991) suggested that very probably *Sinia* should also be included in *Sauvagesia*, because the flower morphology as described by Diels (1930) fits perfectly within the variation encountered in *Sauvagesia* s.l. Recent specimens collected for the *Flora of China* project have provided excellent material with flowers and ripe fruits, confirming that *Sinia* should

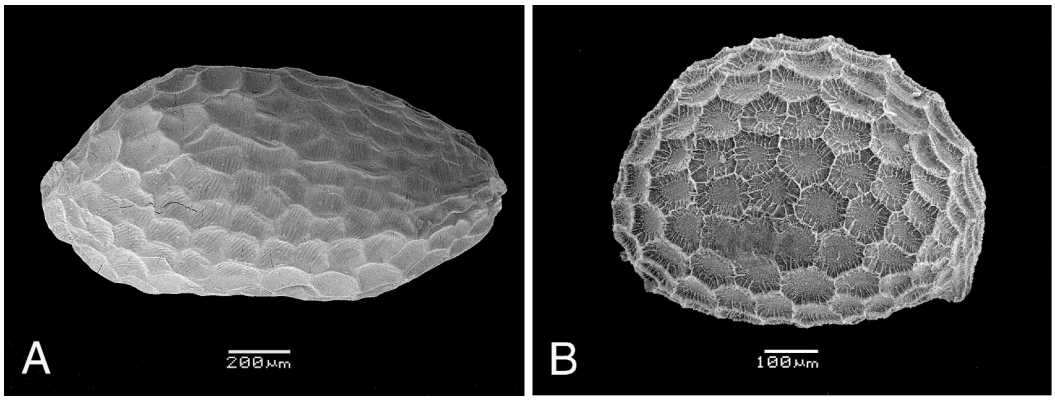

Figure 1. —A. *Sauvagesia rhodoleuca*, SEM of seed, *Wei Zhaofen 123213* (MO). —B. *Sauvagesia erecta*, SEM of seed, *C.G. Machado 22398* (UEC).

be included in *Sauvagesia*. Beyond the floral morphology, the ellipsoid and conspicuously areolate seeds are particularly characteristic of the genus *Sauvagesia*. Given this new information, a new combination is presented herein.

Sauvagesia rhodoleuca (Diels) M. C. E. Amaral, comb. nov. Basionym: *Sinia rhodoleuca* Diels, Notizbl. Bot. Gart. Berlin 10: 889. 1930. TYPE: "China meridionalis, Prov. Kwang si, in montibus Yaoshan, Lohsiang, 600–1000 m," *Sin 8197* (lectotype, designated here, SYS not seen, photo at P; isotype, K). Figure 1.

Specimens examined. Sauvagesia rhodoleuca: *Sin 8152* (paratype, B, destroyed, photo at A; isoparatypes, A, SYS not seen, photo at P); *Wei Zhaofen 123213* (MO); *Liu Yingguang 03049* (MO); *Huang Cheng 164390* (MO); *Tan Peixiang 58642* (MO); *Chen Guoqiang 50078* (MO); Guangdong Prov., *4774* (MO). *Sauvagesia erecta* L.: "Campinas, SP, Brazil," *C. G. Machado 22398* (UEC).

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